

USING COLLABORATIVE MODEL TO EXAMINE ONLINE PERSUASION
THROUGH E-COMMERCE WEBSITE DESIGN: COMPARATIVE STUDY
BETWEEN GEN X AND GEN Y ONLINE SHOPPERS IN MALAYSIA

LOH YIN XIA

A thesis submitted in
fulfilment of the requirement for the award of the
Master of Science in Technology Management



Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia

FEBRUARY 2021

I hereby declare that the work in this project report is my own except for quotations
and summaries which have been duly acknowledged

Student : *loh*

LOH YIN XIA

Date : 25 February 2021



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

Supervisor : *Aziati*

ASSOC. PROF. DR. NOR AZIATI BINTI
ABDUL HAMID

PROF. Madya DR. NOR AZIATI BINTI ABDUL HAMID
Prof. Madya
Jabatan Pengurusan Pengeluaran dan Operasi
Fakulti Pengurusan Teknologi dan Perniagaan
Universiti Tun Hussein Onn Malaysia

DEDICATION

I would like to dedicate this project report to my respected supervisor, Associate Professor Dr. Nor Aziati binti Abdul Hamid who gave me valuable guidance, blessings, time, and encouragement throughout my research. Furthermore, I am very thankful to my beloved family members, friends, co-supervisor, lecturers, and each respondent that assist me a lot in my research. I would like to express my gratitude for all the support, assistance, guidance, and encouragement from them throughout my research. I am sure that if without all your encouragement and support it would have been a hard and challenging task for me to accomplish this research.



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

ACKNOWLEDGEMENT

The author would like to express her sincere appreciation to her supervisor, Assoc. Prof. Dr. Nor Aziati binti Abdul Hamid for the continuous encouragement and guidance given throughout the duration for this research. The sponsorship by the Universiti Tun Hussein Onn Malaysia in accomplish this research also highly appreciated. Finally, appreciation also goes to everyone involved directly or indirectly towards the compilation of this thesis. Not to forget, my husband, Seah Choon Sen for mental support. Next, I would like to thank my beloved parent and family who has always be at my side for whatever conditions. Lastly, a very big thank you must also go to those who have always surround me with positive vibes, lend me their precious time and indirectly involved in this research.



PTTAUTHM
PERPUSTAKAAN TUNKU TUN AMINAH

ABSTRACT

This study examined online persuasion through website design by using the Elaboration Likelihood Model (ELM) and Persuasive System Design (PSD). This study investigates the phenomenon of the success of Lazada and Shopee to provide guidelines for website designers and local sellers to enhance the e-commerce website's persuasiveness. The persuasive design features in Lazada's and Shopee's e-commerce websites were evaluated based on the design criteria of the ELM and the PSD model. This study has examined (1) the influence of central route elements (Dialogue Support and Primary Task Support) towards Lazada and Shopee user's attitude change, (2) the influence of Lazada and Shopee user's attitude change towards behavioural intention and (3) the influence of Lazada and Shopee user's behavioural intention towards actual online buying behaviour. There are seven hypotheses proposed initially and tested through the online survey to achieve the research objectives. The relative's differences between Generation X and Generation Y perception of e-commerce persuasiveness had been compared. The leading e-commerce platforms: Lazada and Shopee were selected as a case study. Overall, there were 432 respondents involved in this research where 73.2% from Gen Y and 26.8% from Gen X. The collected data were analysed using Partial Least Square Structural Equation Modelling (PLS-SEM) technique. The results from the analysis indicated that Primary task support through navigation design (PTN) was found to be the most influential persuasive design criteria, followed by Social support through connectedness (SSC), and Dialogue support through argument quality (DSA). According to the results, H1, H2, H3, H4, H7 of the study were accepted. The findings indicated that there is no significant difference between Gen X and GenY except the influential of Credibility support through navigation design (CSN) element. CSN proved to be a strong predictor in Online Buying Attitude (ATT) among Gen X, which is in contrast with Gen Y. Lazada and Shopee should emphasise on the implementation of the liking design technique under DSA when targeting Gen X users. The tailoring design technique under PTN should be emphasised when targeting Gen

Y users. Based on the study, it can be concluded that all objectives were achieved, and the validation of the collaborative model was done.



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

ABSTRAK

Kajian ini mengaji tahap tarikan laman web melalui reka bentuk laman web dengan menggunakan *Elaboration Likelihood Model (ELM)* dan *Persuasive System Design (PSD)*. Untuk menambah nilai kepada kajian ini, laman web e-dagang ternama di Malaysia, *Lazada* dan *Shopee* telah dicalonkan. Kajian ini menyelidik fenomena kejayaan *Lazada* dan *Shopee* untuk memberi garis panduan kepada pereka laman web dan penjual tempatan bagi meningkatkan daya tarikan laman web e-dagang. Ciri reka bentuk tarikan di laman web e-dagang *Lazada* dan *Shopee* telah dinilai berdasarkan kriteria reka bentuk model ELM dan PSD. Kajian ini telah mengaji (1) pengaruh elemen *central route* (Sokongan Dialog dan Sokongan Tugas Utama) terhadap perubahan sikap pengguna *Lazada* dan *Shopee*, (2) pengaruh perubahan sikap pengguna *Lazada* dan *Shopee* terhadap niat tingkah laku dan (3) pengaruh niat tingkah laku pengguna *Lazada* dan *Shopee* terhadap tingkah laku pembelian dalam talian yang sebenar. Seumpama ini, tujuh hipotesis telah dicadangkan dan diuji melalui tinjauan dalam talian untuk mencapai objektif kajian. Perbezaan relatif antara persepsi Generasi X (Gen X) dan Generasi Y (Gen Y) terhadap tarikan e-dagang telah dibandingkan. Secara keseluruhannya, terdapat 432 responden yang terlibat dimana Gen Y ialah 73.2 peratus dan Gen X ialah 26.8 peratus. Data yang dikumpul telah dianalisis dengan menggunakan teknik *Partial Least Square Structural Equation Modeling (PLS-SEM)*. Hasil analisis telah menunjukkan bahawa *Primary task support through navigation design (PTN)* merupakan kriteria reka bentuk tarikan yang paling terpengaruh, diikuti bersama *Social support through connectedness (SSC)*, dan *Dialogue support through argument quality (DSA)*. Menurut kajian, hipotesis H1, H2, H3, H4, H7 telah diterima kerana mempunyai hasil positif. Hasil kajian ini juga menunjukkan bahawa tiada perbezaan yang signifikan antara Gen X dan GenY kecuali pengaruh elemen *Credibility support through navigation design (CSN)*. Menurut kajian, *CSN* merupakan peramal yang terkuat dalam *Online Buying Attitude (ATT)* di kalangan Gen X, manakala hasil kajiannya berbeza di kalangan Gen Y. Secara tidak langsungnya,

teknik reka bentuk yang telah disaring bawah *DSA* merupakan teknik yang baik dan harus diserap oleh laman web e-dagang yang lain. Teknik reka bentuk *Tailoring* di bawah *PTN* harus dititikberatkan ketika ditujukan kepada pengguna Gen Y. Secara keseluruhannya, kajian ini telah mencapai semua objektif dan model kolaborasi telah disahkan dan berfungsi sebagai instrumen baru dalam penilaian kebolehpujian laman web e-dagang.



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

CONTENTS

TITLE	i
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vii
CONTENTS	ix
LIST OF TABLES	xv
LIST OF FIGURES	xviii
LIST OF SYMBOLS AND ABBREVIATIONS	xx
LIST OF APPENDICES	xxiii
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Research background	3
1.3 Problem statement	6
1.4 Research aim	10
1.5 Research questions	11
1.6 Research objectives	11
1.7 Research scope	12
1.8 Significance of study	13
1.9 Contribution of study	13
1.10 Definition of terms	14



PT TAAUTHM
PERPUSTAKAAN TUN AMINAH

1.11	Summary	15
------	---------	----

CHAPTER 2 LITERATURE REVIEW **16**

2.1	Introduction	16
2.2	Theoretical underpin	17
2.2.1	Human-Computer Interaction (HCI)	18
2.3	The variety of persuasive theories and principles	21
2.3.1	Theory of Planned Behavior (TPB)	22
2.3.2	Cialdini's Principles of Influence	24
2.3.3	Fogg's Behavior Model (FBM)	26
2.4	Theory and models	30
2.4.1	Elaboration Likelihood Model (ELM)	30
2.4.2	Persuasive System Design (PSD)	32
2.4.2.1	Primary task support	33
2.4.2.2	Dialogue support	36
2.4.2.3	Credibility support	39
2.4.2.4	Social support	40
2.4.3	The Collaborative Model	43
2.5	Web design principles	45
2.5.1	PSD/ELM Web Design Element	45
2.5.2	Persuasive web design principles	47
2.6	E-commerce: The history and evolution	49
2.6.1	Evolution and trend	49
2.6.2	World largest e-commerce companies	50
2.6.3	E-commerce Marketplaces in Malaysia	52
2.7	Generational cohorts	56
2.7.1	Generational cohorts in Malaysia	57
2.7.2	Background of Gen X and Gen Y in Malaysia	58



2.7.3	Difference of shopping behaviours	59
2.8	Related work	61
2.8.1	Persuasive Technology: Design and Evaluation	61
2.8.2	E-commerce and website design	62
2.8.3	Online buyers' behaviour	63
2.9	Concluding remarks based on previous studies	64
2.10	Hypotheses development	67
2.10.1	Relationship between the models	67
2.10.2	Dialogue support through argument quality	68
2.10.3	Primary task support through navigation design	70
2.10.4	Credibility support through navigation design	72
2.10.5	Primary task support through image appeal	74
2.10.6	Social support through connectedness	75
2.11	Summary	78
CHAPTER 3 RESEARCH METHODOLOGY		79
3.1	Introduction	79
3.2	Research design	79
3.2.1	Case study design	81
3.3	Sampling procedure	84
3.3.1	Population	84
3.3.2	Sampling technique	85
3.3.3	Determination of sample size	86
3.4	Data collection	87
3.5	Questionnaire development	89
3.5.1	Pilot study	94
3.6	Data analysis technique	94
3.6.1	Analysis method	94



3.6.2	Multi-group analysis (MGA) in PLS-SEM	96
3.7	Evaluation of measurement and structural model	97
3.7.1	Measurement model	97
3.7.1.1	Internal consistency and construct validity	98
3.7.1.2	Discriminant validity	99
3.7.2	Structural model	100
3.7.2.1	Coefficient of determination (R^2)	100
3.7.2.2	Path coefficients	101
3.8	Summary	102
CHAPTER 4	DESCRIPTIVE ANALYSIS AND DISCUSSION	103
4.1	Introduction	103
4.2	Pilot Study analysis	104
4.2.1	Demography of respondent	104
4.2.2	Normality Test	108
4.2.3	Reliability Test	109
4.3	Quantitative data analysis	110
4.3.1	Data editing and coding	110
4.3.2	Data cleaning and transformation	111
4.3.3	Factor Analysis	112
4.4	Multivariate Statistical Assumptions	116
4.4.1	Normality Test	116
4.4.2	Homoscedasticity	118
4.4.3	Multicollinearity	119
4.5	Data analysis using SPSS	120
4.5.1	Demography	120
4.5.2	Online shopping experience	121
4.5.3	Online shopping preference	123



4.5.4	Cross tabulation	127
4.6	Analysis according to Research Objectives	130
4.6.1	PLS-SEM Analysis	134
4.6.1.1	Outer Model Assessment	136
4.6.1.2	Structural Model Evaluation	140
4.6.1.3	Hypotheses Testing	142
4.6.2	Multi Group Analysis (MGA) in PLS-SEM	143
4.6.2.1	Generate Data Groups	143
4.6.2.2	Test for Invariance	144
4.6.2.3	Analyse and Interpret Permutation Results	146
4.7	Summary	148
CHAPTER 5	CONCLUSION AND RECOMMENDATION	150
5.1	Introduction	150
5.2	Overview of the study	151
5.3	Impact Factor	153
5.3.1	Impact on Small and Medium Enterprise	153
5.3.2	Impact on Website Designer and Web Marketer	155
5.4	Discussion of the Findings	157
5.4.1	Objective 1	157
5.4.2	Objective 2	159
5.4.3	Objective 3 and 4	161
5.4.4	Objective 5	161
5.5	Contribution of study	163
5.6	Limitation of study	164
5.7	Recommendations for Future Research	165
5.8	Summary	167
REFERENCES		168





PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

LIST OF TABLES

2.1	Three Core Motivators	28
2.2	Six Simplicity Factors	28
2.3	Three Types of Triggers	29
2.4	Comparison of Central Route & Peripheral Route	31
2.5	Primary Task Support Principles	34
2.6	Dialog Support Principles	36
2.7	System Credibility Principles	39
2.8	Social Support Principles	41
2.9	PSD/ELM Web Design Element	46
2.10	5 Persuasive Web Design Principles	48
2.11	E-Commerce in 4 Categories	50
2.12	Top 10 E-commerce Companies in the World in 2018	51
2.13	Top e-commerce companies ranked by GMV	52
2.14	Comparison of E-Commerce Marketplace in Malaysia	55
2.15	Generation Cohorts in the U.S.	56
2.16	Malaysia Generational Labels	58
2.17	Differences of Gen X and Gen Y in Malaysia	59
2.18	Comparison of Gen X and Gen Y shopping behaviours	60
2.19	Expert Evaluation using PSD Model	65
2.20	Dialogue Support Features through Argument Quality	69
2.21	DSA -Table of Measurement	70
2.22	Primary Task Support Features through Navigation Design	71



2.23	PTN -Table of Measurement	72
2.24	Credibility Support Features through Navigation Design	73
2.25	CSN -Table of Measurement	73
2.26	Primary Task Support Features through Image Appeal	74
2.27	PTI -Table of Measurement	75
2.28	Social Support Features through Connectedness	76
2.29	SSC -Table of Measurement	77
3.1	Sample Sizes for Different Populations	87
3.2	How the Research Questionnaire was generated	90
3.3	Preliminary considerations in selecting PLS-SEM	95
3.4	Guideline for Reliability and Validity of Measurement Model	99
3.5	Validity Guidelines for Assessing Reflective Structural Model	102
4.1	Demography of Respondent	105
4.2	Test of Normality	109
4.3	Test of Reliability	109
4.4	Principal Component Analysis	113
4.5	Skewness and Kurtosis Analysis	117
4.6	Multicollinearity Test	120
4.7	Demographic Profile	121
4.8	Lazada and Shopee User's Online Shopping Behaviour	122
4.9	Purpose in using Lazada/Shopee	123
4.10	Valuable Aspect in Lazada/Shopee	123
4.11	Cross-tabulation between Working Status & Online Shopping Intention	127
4.12	Cross-tabulation between Working Status & Average Monthly Income	128
4.13	Cross-tabulation between Period of Usage & Online Shopping Intention	129
4.14	All Construct and their Attributes	131



4.15	Individual Item Reliability & Convergent Validity	138
4.16	Heterotrait-Monotrait Ratio (HTMT)	139
4.17	Confidence Interval of HTMT	140
4.18	Path Results of the Model	141
4.19	Test of Hypothesis	142
4.20	MICOM Permutation Results – Gen X vs Gen Y	145
4.21	MICOM Permutation Results – Lazada vs Shopee	146
4.22	Path Coefficient Results – Gen X vs Gen Y	147
4.23	Path Coefficient Results – Lazada vs Shopee	148
5.1	Persuasive Features - Examples of Implementation	156



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

LIST OF FIGURES

1.1	Numbers of e-commerce consumers in Malaysia by age group	4
1.2	Numbers of e-commerce consumers in Malaysia by gender	4
1.3	Numbers of e-commerce consumers in Malaysia by income	5
1.4	Number of Visitors of Lazada and Shopee	8
1.5	Scope of Research	12
2.1	Elements considered in this study	18
2.2	Theory of Planned Behaviour	23
2.3	The Functional Triad	26
2.4	Fogg's Behavior Model	27
2.5	Central Route Process and Peripheral Route Process	30
2.6	Primary Task Support Features in Lazada	35
2.7	Primary Task Support Features in Shopee	35
2.8	Dialog Support Feature in Lazada	38
2.9	Dialog Support Feature in Shopee	38
2.10	Relationship between Persuasive Theory	43
2.11	Conceptual Framework of the Collaborative Model	44
2.12	Top E-Commerce Websites in Malaysia	53
2.13	Proposed Research Framework	68
3.1	Research Process	81
3.2	Process of Questionnaire Development	90
4.1	Homoscedasticity Assumption Using Standardised Residual Scatter Plot	118



4.2	Products and Services Purchased Online	124
4.3	Payment Method	125
4.4	Most Visited Online Shopping Platform	126
4.5	Preferable Online Shopping Platform	126
4.6	Continuance Intention and Attitude Change	130
4.7	PLS Path Model of Attitude Change and Persuasive Design Criteria	136
4.8	Outer Loadings of Measurement Model	137
4.9	Heterotrait-Monotrait Ratio (HTMT)	139
5.1	Finalised Collaborative Model	153
5.2	Example of Persuasive Practices in Lazada	155



LIST OF SYMBOLS AND ABBREVIATIONS

n	-	sample size
p	-	probability of observing a test statistic
r	-	Pearson's R correlation
t	-	test statistic
R^2	-	Coefficient of determination
Z	-	Standard score
\overline{AVE}	-	Average communality of outer model
$\overline{R^2}$	-	Multiple correlations of endogenous latent variable
β	-	path coefficient
*.csv	-	comma separated value file type
AI	-	Artificial intelligent
ATM	-	Automated teller machine
ATT	-	Online Buying Attitude
AVE	-	Average variance extracted
B2B	-	Business to business e-commerce
B2C	-	Business to consumer e-commerce
B2G	-	Business to government e-commerce
INT	-	Online Buying Intention
C2B	-	Consumer to business e-commerce
C2C	-	Consumer to consumer e-commerce
CA	-	Cronbach's Alpha
CAGR	-	Compound annual growth rate

CR	-	Composite Reliability
CSN	-	Credibility support through navigation design
DSA	-	Dialogue support through argument quality
EDI	-	Electronic Data Interchange
ELM	-	Elaboration Likelihood Model
ETA	-	Estimated time of arrival
FBM	-	Fogg's Behavior Model
GDP	-	Gross domestic product
Gen X	-	Generation X
Gen Y	-	Generation Y
GMV	-	Gross merchandise value
GoF	-	Goodness-of-Fit
HCD	-	Human-Centred Design
HCI	-	Human-Computer Interaction
HTMT	-	Heterotrait-Monotrait ratio
ISO	-	International Organization for Standardization
IS	-	Information system
IT	-	Information technology
MGA	-	Multigroup analysis
MICOM	-	Measurement invariance of composite models
PLS	-	Partial Least Square
PSD	-	Persuasive system design
PTI	-	Primary task support through image appeal
PTN	-	Primary task support through navigation design
SEM	-	Structural equation modelling
SMEs	-	Small and Medium Enterprises
SSC	-	Social support through connectedness

SPSS	-	Statistical Package for Social Science
TPB	-	Theory of Planned Behavior
TRA	-	Theory of Reasoned Action
UCD	-	User-centred Design
UEM	-	Usability evaluation methods
URL	-	Uniform Resource Locator
VANs	-	Value-added networks
VIF	-	Variance inflation factor
www	-	World Wide Web
DOSM	-	Department of Statistics Malaysia
MCMC	-	Malaysian Communications and Multimedia Commission
ASEAN-	-	Association of Southeast Asian Nations
U.S.	-	United States



PTTAUTHM
PERPUSTAKAAN TUNKU TUN AMINAH

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Summary of Systematic Literature Review	186
B	Expert Evaluation Results – Examine Lazada and Shopee website using PSD and ELM	192
C	Survey Questionnaire	196
D	List of Publications	204



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

CHAPTER 1

INTRODUCTION

1.1 Introduction

The World Wide Web (www) growth at a rapid pace, together with the emerged of internet, smartphone, and other ambient technologies are changing the way consumers purchase goods and services. Technology and globalisation make geography less relevant to consumption activities (Joyce, 2002; Levitt, 1983). Today, many people are using the Web to buy and sell goods; www has become the new sales channel and the fundamental of online shopping. Online shopping has been widely accepted and has recently become a popular trend (Aziz & Wahid, 2017). Online shopping is defined as a form of electronic commerce (e-commerce), whereby consumers buy goods or services directly from the vendors over the Internet (Sohail, 2014).

In 1994, Babin *et al.* identified two dominant shopping motives, which are shopping for fun (hedonic) and shopping with a goal (utilitarian). According to Wolfinbarger and Gilly (2001), typical online shoppers can be divided into two categories based on the two shopping motives. The two categories were also applicable to online shoppers. Utilitarian shoppers refer to the consumers who purchase through online shopping platform to get a specific product or service. On the other hand, hedonic shoppers refer to those who shop online to seek for enjoyment. Researchers have studied the factors that influenced consumer's behaviour in the e-commerce environment. The result from previous studies shows that socio-demographic are common variables that are influencing online buying behaviour. Apart from that, the website design element also influenced a consumer's behaviour when they purchase online. The websites that have met consumer psychology do cause an impact on the

REFERENCES

- Abdul Hamid, N. A., Cheun, C. H., Abdullah, N. H., Ahmad, M. F., & Ngadiman, Y. (2019). Does Persuasive E-commerce Website Influence Users' Acceptance and Online Buying Behaviour? The Findings of the Largest E-commerce Website in Malaysia. *Lecture Notes in Information Systems and Organisation*, 30, pp. 263–279. https://doi.org/10.1007/978-3-030-10737-6_17
- Aditya. (2017). *Report: 2017 Online Shopping Trends in Malaysia*. Retrieved December 7, 2018, from <https://vase.ai/blog/2017onlineshoppingtrends/>
- Adler, R. F., Iacobelli, F., & Gutstein, Y. (2016). Are you convinced? A Wizard of Oz Study to Test Emotional Vs. Rational Persuasion Strategies in Dialogues. *Computers in Human Behavior*, 57, pp. 75–81.
- Aibinu, A. A., & Al-Lawati, A. M. (2010). Using PLS-SEM Technique to Model Construction Organizations' Willingness to Participate in E-Bidding. *Automation in construction*, 19(6), pp. 714-724.
- Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. *Action Control*, pp. 11–39. https://doi.org/10.1007/978-3-642-69746-3_2
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), pp. 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-t](https://doi.org/10.1016/0749-5978(91)90020-t)
- Ajzen, I., & Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Ajzen, I., & Madden, T. J. (1986). Prediction of Goal-Directed Behavior: Attitudes, Intentions, and Perceived Behavioral Control. *Journal of Experimental Social Psychology*, 22(5), 453–474. [https://doi.org/10.1016/0022-1031\(86\)90045-4](https://doi.org/10.1016/0022-1031(86)90045-4)
- Al-mutairi, A., & Alshamari, M. (2020). Using Expert Evaluation to Assess the Implementation of Persuasive Design in e-Commerce. *Journal of Computer Science* 2020, 16(9), pp. 1393-1400.

- Alhammad, M. M., & Gulliver, S. R. (2014). Online Persuasion for E-commerce Websites. *In Proceedings of the 28th International BCS Human Computer Interaction Conference (HCI 2014)* 28, pp. 264-269.
- Alhammad, M. M., & Gulliver, S. R. (2014). Persuasive Technology and Users Acceptance of E-commerce. *Journal of Electronic Commerce in Organizations*, 12(2), pp. 1-13. doi:10.4018/jeco.2014040101
- Ali, S., Che Hussin, A. R., Samsuryadi, & Mahmood, J. (2019). Social Media Element for Persuasive B2C E-Commerce. *Journal of Physics: Conference Series*, 1196, 012001. <https://doi.org/10.1088/1742-6596/1196/1/012001>
- Alin, A. (2010). Multicollinearity. *Wiley Interdisciplinary Reviews: Computational Statistics*, 2(3), pp. 370-374.
- Allen, I. E., & Seaman, C. A. (2007). Likert Scales and Data Analyses. *Quality progress*, 40(7), pp. 64-65.
- Al-Rasheed, I. (2000). *Shopping habits and store selection in food retailing: An empirical study of consumer buying behaviour in Saudi Arabia*. Postgraduate School of Studies in Management and Administration Management Center, University of Bradford.
- Alslaity, A., & Tran, T. (2020). On the Impact of the Application Domain on Users' Susceptibility to the Six Weapons of Influence. *15th International Conference on Persuasive Technology*, pp. 3-15.
- Akter, S., D'Ambra, J., & Ray, P. (2011). Trustworthiness in mHealth Information Services: An Assessment of A Hierarchical Model with Mediating and Moderating Effects Using Partial Least Squares (PLS). *Journal of the American Society for Information Science and Technology*, 62(1), pp. 100-116.
- Anderson, N. H. (1971). Psychological Review. *American Psychologist*, 20(9).
- Areni, C. S. (2003). The Effects of Structural and Grammatical Variables on Persuasion: An Elaboration Likelihood Model Perspective. *Psychology and Marketing*, 20(4), pp. 349-375. doi:10.1002/mar.10077
- Aziz, N. N. A., & Wahid, N. A. (2017). Understanding Customer Behaviour towards Online Shopping. *2nd Business Management and Computing Research Colloquium*, (July), pp. 164-168.
- Babin, B., Darden, W. & Griffin, M. (1994), "Work and/or fun: Measuring Hedonic and Utilitarian Shopping Value", *Journal of Consumer Research*, Vol. 20, pp. 644-56.



PT TAUHIM
PUSAT TEKNOLOGI DAN INOVASI MANAJEMEN

- Bakewell, C., & Vincent-Wayne, M. (2003). Generation Y Female Consumer Decision-Making Styles. *International Journal of Retail & Distribution Management*, 31(2), pp. 95-106.
- Bakewell, C., Mitchell, V.W., & Rothwell, M. (2006). UK Generation Y Male Fashion Consciousness. *Journal of Fashion Marketing and Management*, 10(2), pp. 169–180.
- Bilgihan, A. (2016). Gen Y Customer Loyalty in Online Shopping: An Integrated Model of Trust, User Experience and Branding. *Computers in Human Behavior*, 61, pp. 103–113. <https://doi.org/10.1016/j.chb.2016.03.014>
- Blanco, C. F., Sarasa, R. G., & Sanclemente, C. O. (2010). Effects of Visual and Textual Information in Online Product Presentations: Looking for The Best Combination in Website Design. *European Journal of Information Systems*, 19(6), pp. 668–686. <https://doi.org/10.1057/ejis.2010.42>
- Britannica, T. E. (2017, September 27). Malayan Emergency. Retrieved from <https://www.britannica.com/event/Malayan-Emergency>
- Brettel, M., Engelen, A., Heinemann, F., & Vadhanasindhu, P. (2008). Antecedents of Market Orientation: A Cross-Cultural Comparison. *Journal of International Marketing*, 16(2), pp. 84-119.
- Bryant, M. (2011). 20 years ago, today, the World Wide Web was born - TNW Insider. Retrieved from <https://thenextweb.com/insider/2011/08/06/20-years-ago-today-the-world-wide-web-opened-to-the-public/>
- Bryman, A. (2001) *Social Research Methods*. Oxford University Press, Oxford.
- Bryman, A., & Bell, E. (2011). *Business research methods*. Oxford: Oxford Univ. Press.
- Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in Developmental Science: Situations, Shortcomings, Solutions, and Standards. *Developmental Review*, 33(4), pp. 357-370.
- Burns, N., & Grove, S.K. (2005). *The Practice of Nursing Research: Conduct, Critique & Utilization*. Elsevier Saunders, St Louis.
- Capetola, A., (2018). Using Persuasive Design and Triggers to Increase Conversions. Web Flow. Retrieved from <https://webflow.com/blog/using-persuasive-design-and-triggers-to-increase-conversions>



- Carlisle, J. H. (1976). Evaluating the Impact of Office Automation on Top Management Communication. In *Proceedings of the June 7-10, 1976, national computer conference and exposition (AFIPS '76)*. Association for Computing Machinery, New York, NY, USA, pp. 611–616.
- Carroll, J. M. (1993). Creating A Design Science of Human-Computer Interaction. *Interacting with Computers*, 5(1), pp 3-12. [https://doi.org/10.1016/0953-5438\(93\)90022-L](https://doi.org/10.1016/0953-5438(93)90022-L)
- Carroll, J. M. (1997). Human–computer interaction: Psychology as a science of design. *International Journal of Human-Computer Studies*, 46(4), pp. 501-522. doi:10.1006/ijhc.1996.0101
- Carroll, J., & Campbell, R. (1986). Softening Up Hard Science: Reply to Newell and Card. *Human-Computer Interaction*, 2(3), pp. 227-249.
- Cavaye, A. L. M. (1996). Case study research: A Multifaceted Research Approach for IS. *Information Systems Journal*, 6, 227–242. <https://doi.org/10.4213/dm128>
- Chang, H. H., Lu, Y. Y., & Lin, S. C. (2020). An Elaboration Likelihood Model of Consumer Respond Action to Facebook Second-hand Marketplace: Impulsiveness as a Moderator. *Information & Management*, 57(2), 103171.
- Check, J. W. & Schutt, R. K. (2011). *Research methods in education*. London: SAGE.
- Chen, S. & Macredie, R., (2005). The Assessment of Usability of Electronic Shopping: A Heuristic Evaluation. *International Journal of Information Management*, 25, pp. 516–532.
- Chen, S. H., & Lee, K. P. (2008). The Role of Personality Traits and Perceived Values in Persuasion: An Elaboration Likelihood Model Perspective on Online Shopping. *Social Behavior and Personality: An International Journal*, 36(10), 1379-1399. doi:10.2224/sbp.2008.36.10.1379
- Chew, J. (2018). E-Commerce Rewind 2018. Access on December 19, 2018, from <https://iprice.my/trends/insights/e-commerce-rewind-2018/>
- Chew, J. (2019). Top e-commerce platforms in 4Q18. Retrieved from <https://www.theborneopost.com/2019/04/21/top-e-commerce-platforms-in-4q18/>
- Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modelling. *Modern Methods for Business Research*, 295(2), pp. 295–336.



PT TARMAN TUNJUNG MINAH

- Chin, W. W., & Dibbern, J. (2010). A Permutation-Based Procedure for Multi-Group PLS Analysis: Results of tests of differences on simulated data and a cross cultural analysis of the sourcing of information system services between Germany and the USA. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications, Springer Handbooks of Computational Statistics Series* (Vol. II, pp. 171–193). Heidelberg: Springer.
- Ching, C. K., & Chien, S. L. (2017). E-Commerce Market Trends: A Case Study in Leveraging Web 2.0 Technologies to Gain and Improve Competitive Advantage. *Int. J. Business Information Systems* 25(3), pp. 373-392.
- Chu, S. C., Leung, L. C., Van Hui, Y., & Cheung, W. (2007). Evolution of e-commerce Websites: A Conceptual Framework and A Longitudinal Study. *Information & Management*, 44(2), pp. 154-164.
- Churchill, G. A. (1999). *Marketing research: Methodological foundations*. Fort Worth: Dryden Press.
- Cialdini, R. B. (2007). *Influence: The psychology of persuasion*. Collins.
- Cialdini, R. B., Wosinska, W., Barrett, D. W., Butner, J., & Gornik-Durose, M. (2001). The Differential Impact of Two Social Influence Principles on Individualists and Collectivists in Poland and The United States. In W. Wosinska, R. Cialdini, D. Barrett (Eds.), *The practice of social influence in multiple cultures*, pp. 33-50.
- Cyr, D., Head, M., & Ivanov, A. (2009). Perceived Interactivity Leading to E-Loyalty: Development of A Model for Cognitive-Affective User Responses. *International Journal of Human Computer Studies*, 67(10), pp. 850–869. <https://doi.org/10.1016/j.ijhcs.2009.07.004>
- Cyr, D., Head, M., Lim, E., & Stibe, A. (2018). Using the Elaboration Likelihood Model to Examine Online Persuasion through Website Design. *Information and Management*, 55(7), pp. 807–821.
- De Vaus, D. (2001). The Context of Design. *Research Design in social research*, pp. 279.
- Dhanapal, S., Vashu, D., & Subramaniam, T. (2015). Perceptions on the challenges of online purchasing: A study from “baby boomers”, generation “X” and generation “Y” point of views. *Contaduria y Administracion*, 60, 107–132. <https://doi.org/10.1016/j.cya.2015.08.003>



PTTA UTM
PUSAT PENYELIDIKAN DAN PENGKAJI TINDAKAN DAN AMALAN

- Dhiranty, A., Suharjo, B., & Suprayitno, G. (2017). An analysis on customer satisfaction, trust, and loyalty toward online shop (a case study of tokopedia.com). *Indonesian Journal of Business and Entrepreneurship (IJBE)*, 3(2), pp. 101-110.
- DigitalNewsAsia. (2018). iPrice Group's Q3 2018 Map of E-Commerce indicates continual rise of Shopee and 11street. Access on October 29, 2018 from <https://www.digitalnewsasia.com/digital-economy/iprice-groups-q3-2018-map-ecommerce-indicates-continual-rise-shopee-and-11street>
- Dijkstra, T. K., & Henseler, J. (2011). Linear Indices in Nonlinear Structural Equation Models: Best Fitting Proper Indices and Other Composites. *Quality & Quantity*, 45(6), 1505.
- Djamasbi, S., Siegel, M., & Tullis, T. (2010). Generation Y, Web design, and Eye Tracking. *International Journal of Human-Computer Studies*, 68(5), pp. 307-323.
- DOSM. (2019). Press Release for Statistics on Usage of ICT and E-Commerce by Establishment 2018. *DOSM, Department of Statistics Malaysia*, pp. 2.
- Daoud, J. I. (2017). Multicollinearity and Regression Analysis. *Journal of Physics: Conference Series (Vol. 949, No. 1, p. 012009)*. IOP Publishing.
- Dubé, L., & Paré, G. (2003). Rigor in IS Positivist Case Research. *MIS Quarterly*, 27(4), pp. 597-635.
- Dunne, P. M., Lusch, R. F., & Carver, J. R. (2013). *Retailing*. Cengage Learning.
- Eastman, J. K., & Liu, J. (2012). The impact of generational cohorts on status consumption: an exploratory look at generational cohort and demographics on status consumption. *Journal of Consumer Marketing*, 29(2), pp. 93-102.
- Engle, R. A., Langer-Osuna, J. M., & Royston, M. M. (2014). Toward a Model of Influence in Persuasive Discussions: Negotiating Quality, Authority, Privilege, and Access Within a Student-Led Argument. *Journal of the Learning Sciences*, 23(2), 245-268. doi:10.1080/10508406.2014.883979
- Faisal, C. N., de Andres-Suarez, J., Gonzalez-Rodriguez, M., Fernandez-Lanvin, D., Ahmad, M., & Habib, M. A. (2018). Impact of web design features on irritation for E-commerce websites. *In Proceedings of the 33rd Annual ACM Symposium on Applied Computing*, pp. 656-663.



PT TAAUTHM
PERPUSTAKAAN TUN KUTUB AMINAH

- Faisal, S. (2018). *Moderating Effects of Cross-Cultural Dimensions on The Relationship Between Persuasive Smartphone Application's Design and Acceptance-Loyalty*. Universiti Tun Hussein Onn Malaysia: Ph.D. Thesis.
- Farris, R., Chong, F., & Danning, D. (2002). Generation Y: Purchasing power and Implications for Marketing. *Academy of Marketing Studies Journal*, 6(2), 89e101.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude. *Intention and Behavior: An Introduction to Theory and Research*.
- Fogg, B. J. (1998). Persuasive Computers: Perspectives and Research Directions. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI 98*. doi:10.1145/274644.274677
- Fogg, B.J. (2003). *Persuasive Technology: Using Computers to Change What We Think and Do*. San Francisco: Morgan Kaufmann Publishers.
- Fogg, B. J., Soohoo, C., Danielson, D. R., Marable, L., Stanford, J., & Tauber, E. R. (2003). How do users evaluate the credibility of websites? *Proceedings of the 2003 Conference on Designing for User Experiences - DUX 03*. doi:10.1145/997078.997097
- Fogg, B. J. (2009). A Behavior Model for Persuasive Design. *Proceedings of the 4th International Conference on Persuasive Technology - Persuasive 09*. doi:10.1145/1541948.1541999
- Fogg, B. J., Cuellar, G., & Danielson, D. (2009). Motivating, Influencing, and Persuading Users. *Human Factors and Ergonomics Human-Computer Interaction Fundamentals*, 109-122. doi:10.1201/b10368-9
- Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, 18, pp. 382-388.
- Fornell, C., & Bookstein, F. L. (1982). Two Structural Equation Models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing research*, 19(4), pp. 440-452.
- Garett, R., Chiu, J., Zhang, L., & Young, S. D. (2016). A Literature Review: Website Design and User Engagement. *Online journal of communication and media technologies*, 6(3), 1.

- Garson, G. D. (2016). *Partial Least Squares: Regression and Structural Equation Models*. Asheboro: Statistical Associates.
- Gaspar, D. (2018). Are you a Gen X, Gen Y or Gen Z at heart? Access on 22 January, 2019 from <https://www.thestar.com.my/news/nation/2018/01/19/are-you-a-gen-x-gen-y-or-gen-z-at-heart>
- George, J. F. (2004). The Theory of Planned Behavior and Internet purchasing. *Internet Research*, 14(3), pp. 198–212.
- Goldsmith, C., Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Robson, R. (2010). A tutorial on pilot studies: What, why and how. *BMC Medical Research Methodology*, 10, pp. 1–10. <https://doi.org/10.1186/1471-2288-10-1>
- Goldstein, NJ, Cialdini, RB, & Griskevicius, V (2008). A Room with A Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35, pp. 472–482. doi:10.1086/586910
- Gray, W. & Salzman, C., (1998). Damaged merchandise? A review of experiments that compare usability evaluation methods. *Human–Computer Interaction*, 13, pp. 203–261.
- Hair Jr., J. F. et al. (1998). *Multivariate Data Analysis with Readings*. Englewood Cliffs, NJ: Prentice-Hall.
- Hair Jr., J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2009) *Multivariate Data Analysis. 7th Edition*, Prentice Hall, Upper Saddle River, 761.
- Hair Jr., J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of The Use of Partial Least Squares Structural Equation Modelling in Marketing Research. *Journal of the Academy of Marketing Science*, 40(3), pp. 414–433. <https://doi.org/10.1007/s11747-011-0261-6>
- Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Hair Jr., J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial Least Squares Structural Equation Modelling (PLS-SEM). *European business review*.
- Hair, Jr., J. F., Celsi, M., Money, A., Samouel, P., & Page, M. (2016). *Essentials of business research methods*. New York: Routledge.



PTTA UNIVERSITI
PERPUSTAKAAN TUNKU AMINAH

- Hair, Jr., J. F., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017a). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management & Data Systems*.
- Hair Jr., J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017b). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), pp. 107.
- Halttu, K., & Oinas-Kukkonen, H. (2017). Persuasive Systems Design for Physical Health Survey. *PsycTESTS Dataset*. doi:10.1037/t67836-000
- Hamzah, N. (2018). *Digital Marketing in Malaysia*. Centre for Entrepreneur Development and Research (CEDAR), pp. 2-3.
- Hasan, B. (2016). Components of Online Shopping Attitude and the Effects of Website Design Characteristics. *Journal of Information & Knowledge Management*, 15(03), 1650028. <https://doi.org/10.1142/s0219649216500283>
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modelling in International Marketing. *Advances in international marketing*, 20, pp. 277–319.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using Partial Least Squares Path Modelling. *Structural Equation Modeling*, 17(1), pp. 82–109.
- Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., & Calantone, R. J. (2014). Common beliefs and reality about PLS: Comments on Rönkkö and Evermann. *Organizational research methods*, 17(2), pp. 182-209.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the academy of marketing science*, 43(1), pp.115-135.
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modelling in new technology research: updated guidelines. *Industrial management & data systems*.
- Himmel, B. (2008). Different Strokes for Different Generations, *Rental Product News*, 30(7), pp. 42-46.
- Hootsuite. (2019). Digital 2019: Malaysia. *Global Digital Insights*, 2019. Retrieved from <https://datareportal.com/reports/digital-2019-indonesia>



PTIA UTM
PERPUSTAKAAN FAKULTAS TEKNIK UNIVERSITI TEKNOLOGI MALAYSIA

- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), pp. 195-204.
- Hum, S. (2018). Dr. Robert Cialdini's 6 Principles of Persuasion (Over 60 Examples Inside!). Retrieved from <https://www.referralcandy.com/blog/persuasion-marketing-examples/>
- Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students*. Houndmills: Macmillan.
- Ibrahim, N., Shiratuddin, M. F., & Wong, K. W. (2018). Modelling the persuasive visual design model for web design: A confirmatory factor analysis with PLS-SEM. *AIP Conference Proceedings*, 2016. <https://doi.org/10.1063/1.5055458>
- Ihsan, A., Li, S., & Alexis, N. (2020). The Importance of Information, System and Service Quality of E-commerce Website on Customer Satisfaction and Loyalty in Bangladesh. *European Journal of Business and Management* 12(14), pp. 113-131.
- iPrice. (2018). The Map of E-commerce in Malaysia. Retrieved from <https://iprice.my/insights/mapofecommerce/en/>
- iPrice. (2020). The Map of E-commerce in Malaysia. Retrieved from <https://iprice.my/insights/mapofecommerce/en/>
- iPrice. (2021). The Map of E-commerce in Indonesia. Retrieved from <https://iprice.co.id/insights/mapofecommerce/en/>
- Ismail, N., A., & Masud, M., M. (2020), "Prospects and Challenges in Improving E-Commerce Connectivity in Malaysia", in Chen, L. and Kimura, F. (eds.), *E commerce Connectivity in ASEAN*. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia, pp. 78-98.
- Jeremy, C. (2018). A 10 Year History of Ecommerce in Malaysia. Access on May 3, 2019, from <https://www.valuewalk.com/2018/05/10-year-history-ecommerce-malaysia/>
- Johan, M. R. M., Xyn, T. M., Manab, N. F. A., Syed, M. A. M., & Adnan, H. M. (2020). Customer Retention in Digital Media Business Platforms in Malaysia. *Forum Komunikasi* 10(1). pp. 116-137.
- Jokela, T., Iivari, N., Matero, J., & Karukka, M. (2003). The Standard of User-Centred Design and The Standard Definition of Usability. *Proceedings of the Latin American Conference on Human-computer Interaction - CLIHC 03*.



PT TUNJUK TUNJUK AMINAH

- Joyce, R. (2002). "Digitalization, the internet and electronic commerce", *Futurics*, 26, pp. 92-94.
- Kaptein, M. & Duplinsky, S. (2009). Combining Multiple Influence Strategies to Increase Consumer Compliance.
- Kartiwi, M., Hussin, H., Suhaimi, M. A., Jalaldeen, M. R. M., & Amin, M. R. (2018). Impact of external factors on determining E-commerce benefits among SMEs in Malaysia. *Journal of Global Entrepreneurship Research*, 8(1), 1-12.
- Kasim, S., Fung, T. A., Omar, N. A., Wahid, N., Hafit, H., Alyani, A., & Haizan, R. N. (2017). Online Reusable Goods Management System (ORGMS). *Acta Electronica Malaysia (AEM)*, 1(2), 20-22.
- Keil, M., Tan, B. C., Wei, K. K., Saarinen, T., Tuunainen, V., & Wassenaar, A. (2000). A cross-cultural study on escalation of commitment behavior in software projects. *MIS quarterly*, pp. 299-325.
- Kelley, E. (2017). Meet Dr. BJ Fogg: Master of Persuasive Technology. Retrieved from <https://032c.com/persuasive-technology>
- Ketabi, S. N., Ranjbarian, B., & Ansari, A. (2014). Analysis of the Effective Factors on Online Purchase Intention through Theory of Planned Behavior. *International Journal of Academic Research in Business and Social Sciences*, 4(4), pp. 374-382. <https://doi.org/10.6007/ijarbss/v4-i4/808>
- Kim, D., & Ammeter, A. P. (2008). Examining Shifts in online purchasing behavior: decoding the next generation. *Academy of Information and Management Sciences*, 12(1), pp. 7-12.
- Kim, D., & Benbasat, I. (2003). Trust-related arguments in Internet stores: A framework for evaluation. *Journal of Electronic Commerce Research*.
- Kim, H-Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry and Endodontics*, 38, 52-54.
- Kimery, K., & McCord, M. (2002). Third-party assurances: The road to trust in online retailing. *Proceedings of the 35th Annual Hawaii International Conference on System Sciences*. doi:10.1109/hicss.2002.994158
- King, A. J., Lazard, A. J., & White, S. R. (2020). The Influence of Visual Complexity on Initial User Impressions: Testing The Persuasive Model of Web Design. *Behaviour & Information Technology*, 39(5), pp. 497-510.



- Kinncar, T. C., & Taylor, J. R. (1996). *Instructors manual to accompany Marketing research: An applied approach*. New York: McGraw-Hill.
- Kitchen, P. J., Kerr, G., Schultz, D. E., McColl, R., & Pals, H. (2014). The elaboration likelihood model: review, critique, and research agenda. *European Journal of Marketing*.
- Kiu, C. C., & Lee, C. S. (2017). E-commerce market trends: a case study in leveraging Web 2.0 technologies to gain and improve competitive advantage. *International Journal of Business Information Systems*, 25(3), 373-392.
- Ko, A. J., Myers, B., Rosson, M. B., Rothermel, G., Shaw, M., Wiedenbeck, S., Lieberman, H. (2011). The State of The Art in End-User Software Engineering. *ACM Computing Surveys*, 43(3), pp. 1-44.
- Koch, O. F., & Benlian, A. (2015). Promotional Tactics for Online Viral Marketing Campaigns: How Scarcity and Personalization Affect Seed Stage Referrals. *Journal of Interactive Marketing*, 32, pp. 37-52.
- Kolan, N. F., Jailani, N., Abu Bakar, M., & Latih, R. (2018). Trust model based on Islamic business ethics and social network analysis. *International Journal on Advanced Science, Engineering, and Information Technology*, 8(6), 2323-2331.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, pp. 607-610
- Kruglanski, A. W., Van, L., & Paul, A.M. (2012). *Handbook of theories of social psychology*. London, England: Sage, pp. 224-245.
- Laja, P. (2018). 5 Principles of Persuasive Web Design. Retrieved from <https://conversionxl.com/blog/5-principles-of-persuasive-web-design/>
- Lamb, R. (2017). Brand loyalty highest in Gen X consumers: EMarketer. Retrieved from <https://www.retaildive.com/ex/mobilecommercedaily/brand-loyalty-highest-in-gen-x-consumers-emarketer>
- Lee, G., Tsai, C., Griswold, W. G., Raab, F., & Patrick, K. (2006). PmEB. *CHI 06 Extended Abstracts on Human Factors in Computing Systems - CHI EA 06*
- Lehtonen, T.K. & Maenpaa, P. (1997), "Shopping in the East Centre Mall", in Fall P. and Campbell, C. (Eds), *The Shopping Experience*, Sage Publications, London.
- Lelong.my. (2020). About Lelong.my. Retrieved from <https://www.lelong.com.my/content/help/AboutLelong>



PT TAAU THM
PUSAT TEKNOLOGI DAN APLIKASI UNTUK TUNJANGAN AKADEMIK

- Lester, D. H., Forman, A. M., & Loyd, D. (2006). Internet shopping and buying behavior of college students. *Services Marketing Quarterly*, 27(2), 123e138.
- Levitt, T. (1983), "The Globalisation of Markets", *Harvard Business Review* May/Jun.
- Levy, A. (2018). The 7 Largest E-Commerce Companies in the World. Retrieved from
- Lim, H., & Dubinsky, A. J. (2005). The Theory of Planned Behavior in E-commerce: Making a case for interdependencies between salient beliefs. *Psychology and Marketing*, 22(10), pp. 833–855. <https://doi.org/10.1002/mar.20086>
- Lim, S., & Trakulmaykee, N. (2018). An empirical study on factors affecting e-commerce adoption among SMEs in west Malaysia. *Management Science Letters*, 8(5), pp. 381-392.
- Lim, T. H. (2020). E-Commerce Lifeline for SMEs. *New Straits Times*.
- Lin, X., Wang, X., & Hajli, N. (2019). Building e-commerce satisfaction and boosting sales: The role of social commerce trust and its antecedents. *International Journal of Electronic Commerce*, 23(3), pp. 328-363.
- Liu, Y., Wu, A. D., & Zumbo, B. D. (2010). The impact of outliers on Cronbach's coefficient alpha estimate of reliability: Ordinal/rating scale item responses. *Educational and Psychological Measurement*, 70(1), pp. 5-21.
- Locke, E. A., & Bandura, A. (2006). Social Foundations of Thought and Action: A Social-Cognitive View. *The Academy of Management Review*, 12(1), 169. doi:10.2307/258004
- Maanen, J. V. (1983). *Qualitative methodology*. Beverly Hills u.a.: Sage.
- Manning, H., J. C. McCarthy, & R. K. Souza. (1998). Interactive technology strategies: Why most Web sites fail. *Forrester Research* 3(7), September, <http://www.forrester.com/>.
- Manzari, L., & Trinidad-Christensen, J. (2013). User-Centred Design of a Web Site for Library and Information Science Students: Heuristic Evaluation and Usability Testing. *Information Technology and Libraries*, 25(3). doi:10.6017/ital.v25i3.3348
- Matthews, L. (2017). Applying multigroup analysis in PLS-SEM: A step-by-step process. In *Partial least squares path modeling* (pp. 219-243). Springer, Cham.
- Mawuntu, K. A., Pangemanan, S. S., & Tielung, M. V. (2020). Comparative Analysis of E-Advertisement between Tokopedia and Shopee. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 8(1).



PT. AL-FATHAH AMINAH
PERPUSTAKAAN FATHAH AMINAH

- Mayers, A. (2013). *Introduction to statistics and SPSS in psychology*. Harlow: Pearson Education Limited.
- McDowell, W. C., Wilson, R. C., & Kile, C. O. (2016). An examination of retail website design and conversion rate. *Journal of Business Research*, 69(11), 4837–4842. <https://doi.org/10.1016/j.jbusres.2016.04.040>
- McGovern, G. (2012) Lean Usability as a Design Model. Accessed on December 1, 2018 from <http://gerrymcgovern.com/lean-usability-as-a-design-model/>
- MCMC. (2017). Internet Users Survey 2017. Access on January 2, 2019, from <https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-Internet-Users-Survey-2017.pdf>
- MCMC. (2018). *E-Commerce Consumers Survey 2018*. MCMC, Malaysian Communications and Multimedia Commission, pp. 1–49.
- Mettler, L. (2015). Millennial Appeal: 5 Ways Hotels are Engaging Gen Y. USNews. Retrieved from <http://travel.usnews.com/features/Millennial-Appeal-5-ways-hotels-are-engaging-Gen-Y/>
- Milo, E. (2017). Malaysians online shopping behaviour by Shopee (2017). Access on July 10, 2018, from <https://www.go-ecommerce.my/article/malaysians-online-shopping-behaviour-shopee-2017>
- Milo. (2019). Malaysia's online shopping behaviour in infographic. Retrieved from <https://www.ecinsider.my/2019/03/malaysia-online-shopping-behaviour-infographic.html>
- Mirhady, D. C., & Garver, E. (1996). Aristotles "Rhetoric": An Art of Character. *Phoenix*, 50(2), 179. doi:10.2307/1192712
- MITI. (2016). eCommerce Initiatives in Malaysia. Retrieved from <https://www.miti.gov.my/index.php/pages/view/3071?mid=409>
- Mohd Satar, N. S., Dastane, O., & Ma'arif, M. Y. (2019) Customer Value Proposition for E-Commerce: A Case Study Approach. *International Journal of Advanced Computer Science and Applications (IJACSA)*, 10(2), pp. 454-458.
- Najjar, L. (2011). Designing E-Commerce User Interfaces. *Human Factors and Ergonomics Handbook of Human Factors in Web Design, Second Edition*, 587-598. doi:10.1201/b10855-38
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Harlow: Pearson Education Limited.



PTTAKAM TUN AMINAH
PERPUSTAKAAN TUN AMINAH

- Newell, A., & Card, S. K. (1985). The Prospects for Psychological Science in Human-Computer Interaction. *Human-Computer Interaction*, 1(3), pp. 209-242. doi:10.1207/s15327051hci0103_1
- Nielsen, J. (2003) Usability 101. Accessed on 1 Dec, 2018, from <http://www.useit.com/alertbox/20030825.html>.
- Nielsen, J. (2008) Over 875 million consumers have shopped online—The number of Internet shoppers up 40% in two years. Retrieved from http://enus.nielsen.com/main/news/news_releases/2008/jan/over_875_million_consumers.
- Nunnally, J. C., & Bernstein, I. H. (1994) *Psychometric theory (3rd ed.)*. New York, NY: McGraw-Hill, Inc.
- Nusair, K. K., Bilgihan, A., Okumus, F., & Cobanoglu, C. (2013). Generation Y travellers' commitment to online social network websites. *Tourism Management*. <https://doi.org/10.1016/j.tourman.2012.05.005>
- O'Leary, Z. (2014). *The essential guide to doing your research project (2nd ed.)*. London: SAGE.
- Oinas-Kukkonen, H., & Harjumaa, M. (2008a). "Towards Deeper Understanding of Persuasion in Software and Information Systems" in *Proceedings of The First International Conference on Advances in Human-Computer Interaction (ACHI 2008)*, electronic publication, ISBN 978-0-7695-3086-4, pp. 200-205.
- Oinas-Kukkonen, H., & Harjumaa, M. (2008b). A Systematic Framework for Designing and Evaluating Persuasive Systems. *Persuasive Technology Lecture Notes in Computer Science*, pp. 164-176. doi:10.1007/978-3-540-68504-3_15
- Oinas-Kukkonen, H., & Harjumaa, M. (2009). Persuasive Systems Design: Key Issues, Process Model, and System Features. *Communications of the Association for Information Systems*, 24. doi:10.17705/1cais.02428
- O'Keefe, D. J. (2002). *Persuasion theory and research*. Newbury Park: Sage.
- Othman, A. S., Lubis, L. N., Rahman, I. A., Osman, L. H., & Omar, A. R. C. (2020). Consumer Attitude towards Online Shopping Among International Students in Malaysia. *Asian Journal of Entrepreneurship*, 1(2), pp. 1-8.
- Pajović, S. (2018, November 21). 8 Largest E-Commerce Companies in the World and No, Alibaba is Not the Largest Chinese E-Commerce • AxiomQ Ventures. Retrieved from <https://axiomq.com/blog/8-largest-e-commerce-companies-in-the-world/>



- Parment, A., (2009). *Automobile Marketing: Distribution Strategies for Competitiveness*. VDM Publishing, Saarbrücken.
- Parment, A. (2013). Generation Y vs. Baby Boomers: Shopping behavior, buyer involvement and implications for retailing. *Journal of Retailing and Consumer Services*, 20(2), 189–199. <https://doi.org/10.1016/j.jretconser.2012.12.001>
- Paul, S. (2017, August 08). From Baby Boomers to Gen Z: Here's A Breakdown of When Each Generation Begins and Ends. Retrieved from <https://says.com/my/lifestyle/the-differences-between-generations-in-malaysia>
- Pawar, S. (2018). 8 Principles of Good Website Design. Retrieved from <https://wpastra.com/good-website-design/>
- Peralta, E. (2015). Generation X: the small but financially powerful generation. Centro. Retrieved from <http://www.centro.net/blog/generation-x-the-small-but-mightygeneration/>
- Petty, R. E., & Cacioppo, J. T. (1981). *Attitude and persuasion: Classic and contemporary approaches*. Dubuque, IA: Wm. C. Brown Company.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement. *Journal of Consumer Research*, 10(2), pp. 135-146. doi:10.1086/208954
- Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology*, pp. 123-205.
- Picodi. (2019). Online shopping in Malaysia. Access on July 20, 2019, from <https://www.picodi.com/my/bargain-hunting/online-shopping-in-malaysia>
- Pribeanu, C. (2014). Extending and Refining Usability Heuristics to Better Address User Centered Design Issues in the Development and Evaluation of Municipal Websites. *Informatica Economica*, 18 (1/2014), pp. 83-91.
- Puteh, F., & Ong, H. A. (2017). Quantitative data analysis: Choosing between SPSS, PLS and AMOS in social science research. *International Interdisciplinary Journal of Scientific Research*, 3(1). <https://doi.org/10.2753/MTP1069-6679190202>
- Rahulan, M., Troynikov, O., Watson, C., Janta, M., & Senner, V. (2015). Consumer behavior of generational cohorts for compression sportswear. *Journal of Fashion Marketing and Management*, 19(1), pp. 87-104.



PTIAUTHM
PERPUSTAKAAN FUNKSI KOLAMINAH

- Rasoolimanesh, S. M., Roldan, J. L., Jaafar, M., & Ramayah, T. (2016). Factors influencing residents' perceptions toward tourism development; differences across rural and urban world heritage sites. *Journal of Travel Research*. doi:10.1177/0047287516662354.
- Räisänen, T., Lehto, T., & Oinas-Kukkonen, H. (2010). Practical Findings from Applying the PSD Model for Evaluating Software Design Specifications. *Persuasive Technology Lecture Notes in Computer Science*, pp. 185-192. doi:10.1007/978-3-642-13226-1_19
- Reisenwitz, T. H., & Iyer, R. (2009). Differences in generation X and generation Y: Implications for the organization and marketers. *The Marketing Management Journal*. 19(2), pp. 91-103.
- Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2018). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, pp. 1-27.
- Robson, Colin. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. C. Robson.
- Rofiq, A., Mula, J. M., & Scott, A. (2011). Purchase intention to undertake e-commerce transactions in developing countries: Application of theory of planned behavior in Indonesia. *International Conference on Management and Service Science, MASS 2011*. <https://doi.org/10.1109/ICMSS.2011.5999076>
- Rousseeuw, P. J., & Van Zomeren, B. C. (1990). Unmasking multivariate outliers and leverage points. *Journal of the American Statistical association*, 85(411), pp. 633-639.
- Rowley, J. (2002). Using case studies in research. *Management Research News*, 25(1), pp. 16-27. <https://doi.org/10.1108/01409170210782990>
- Roy, S. (2018). The history of e-commerce in Malaysia. Access at July 31, 2018, from <https://techwireasia.com/2018/07/the-history-of-e-commerce-in-malaysia/>
- Ruel, E. E., Wagner, W. E., & Gillespie, B. J. (2016). *The practice of survey research: Theory and applications*. Thousand Oaks, CA: Sage Publications. pp.101-103.
- Rutherford, B. N., Park, J., & Han, S. L. (2011). Increasing job performance and decreasing salesperson propensity to leave: An examination of an Asian sales force. *Journal of Personal Selling & Sales Management*, 31(2), 171-183.
- Salmon, S. J., De Vet, E., Adriaanse, M. A., Fennis, B. M., & De Ridder, D. T. (2015). Social proof in the supermarket: Promoting healthy choices under low self-



PTIA UTM
PUSAT PENELITIAN DAN PENGEMBANGAN ILMU ADMINISTRASI

- control conditions. *Food Quality and Preference*, 43(1), pp. 113-120. doi:10.1016/j.foodqual.2015.06.004
- San, L. Y., Omar, A., & Thurasamy, R. (2015). Online purchase: a study of generation Y in Malaysia. *International Journal of Business and Management*, 10(6), 1.
- Sarstedt, M., Schwaiger, M., & Ringle, C. M. (2009). Do we fully understand the critical success factors of customer satisfaction with industrial goods? – Extending Festge and Schwaiger’s model to account for unobserved heterogeneity. *Journal of Business Market Management*, 3(3), pp. 185–206.
- Sarstedt, M., Henseler, J., & Ringle, C. M. (2011). Multi-group analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. In M. Sarstedt, M. Schwaiger, & C. R. Taylor (Eds.), *Advances in international marketing* (Vol. 22, pp. 195–218). Bingley: Emerald. doi:10.1108/S1474-7979(2011)0000022012.
- Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2016). Guidelines for treating unobserved heterogeneity in tourism research: A comment on Marques and Reis (2015). *Annals of Tourism Research*, 57, pp. 279–284. doi:10.1016/j.annals.2015.10.006.
- Sarstedt, M., Ringle, C. M. and Hair, J. F. (2017), Partial Least Squares Structural Equation Modeling. In: Homburg C, Klarmann M and Vomberg A (eds) *Handbook of Market Research*. Heidelberg: Springer.
- Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students*. Harlow: Financial Times Prentice Hall.
- Saunders, M., Lewis, P., & Thornhill, A. (2015). *Research methods for business students (7th ed.)*. Harlow: Pearson Education Limited.
- Schewe, C. D., & Meredith, G. (2004). Segmenting global markets by generational cohorts: Determining motivations by age. *Journal of Consumer Behaviour*, 4(1), pp. 51-63. doi:10.1002/cb.157
- Sekaran, U. (2000) *Research Methods for Business: A Skill Business Approach*. John Wiley & Sons, New York.
- Shearman, S. M. & Yoo, J. H. (2007). “Even a penny will help!” Legitimizing the paltry donations and social proof in soliciting donations to a charitable organization. *Communication Research Reports*, 24(4), pp. 271-282. doi:10.1080/0882409071624148



- Sher, P. J., & Lee, S. (2009). Consumer Scepticism and Online Reviews: An Elaboration Likelihood Model perspective. *Social Behavior and Personality: An International Journal*, 37(1), pp. 137-143. doi:10.2224/sbp.2009.37.1.137
- Similar Web. (2019). Traffic Statistics - Comparison between Shopee, Lazada, and Lelong. Retrieved from <https://www.similarweb.com>
- Singleton, R., & Straits, B. C. (2005). *Approaches to social research*. New York, NY: Oxford Univ. Press.
- SiteGiant. (2018). Malaysia Marketplace Comparison - Lazada, Shopee, 11Street, Lelong & Qoo10. Retrieved from <https://www.sitegiant.my/malaysia-marketplace-comparison/>
- Sohail, M. S. (2014). Factors impeding online shopping: An Arab world perspective. *European Online Journal of Natural and Social Sciences*, 3(4), pp. 972-982.
- Sorce, P., Perotti, V., & Widrick, S. (2005). Attitude and age differences in online buying. *International Journal of Retail and Distribution Management*, 33(2), pp. 122-132. <https://doi.org/10.1108/09590550510581458>
- Spool, J. (2016). The \$300 Million Button. Access on February 1, 2019, from <https://www.linkedin.com/pulse/300-million-button-jared-spool>
- Statista. (2019). eCommerce - Malaysia | Statista Market Forecast. Retrieved from <https://www.statista.com/outlook/243/122/ecommerce/malaysia>
- Stibe, A., & Oinas-Kukkonen, H. (2014). Designing Persuasive Systems for User Engagement in Collaborative Interaction. *Ecis*, pp. 1-17.
- Su, D., & Huang, X. (2014). Research on Online Shopping Intention of Undergraduate Consumer in China--Based on the Theory of Planned Behavior. *International Business Research*, 4(1), pp. 86-92. <https://doi.org/10.5539/ibr.v4n1p86>
- Sulova, S. (2019). A System for E-Commerce Website Evaluation. *International Multidisciplinary Scientific GeoConference: SGEM*, 19(2.1), pp. 25-32.
- Tan, J., & Song, O. (2018). How Did Lazada, Shopee, & 11street Perform On 11.11 Singles Day 2018? Access on November 21, 2018, from <https://ringgitplus.com/en/blog/Online-Shopping/How-Did-Lazada-Shopee-11-street-Perform-On-11-11-Singles-Day-2018.html>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, pp. 53-55.



- Teller, S. (2014, February 26). Mobile Malaysia: Ahead of the Pack. Retrieved from [https://ondeviceresearch.com/blog/mobile-malaysia-internet-mobile-ecommerce e-trends](https://ondeviceresearch.com/blog/mobile-malaysia-internet-mobile-ecommerce-e-trends)
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational statistics & data analysis*, 48(1), pp. 159-205.
- Thielsch, M. T., Blotenberg, I., & Jaron, R. (2014). User evaluation of websites: From first impression to recommendation. *Interacting with Computers*, 26(1), pp. 89–102. <https://doi.org/10.1093/iwc/iwt033>
- Tinambunan, I. D. (2019) Comparative Analysis of Shopee and Lazada Web Service (Study on Shopee and Lazada Users in Jakarta City). *International Research Journal of Advanced Engineering and Science*, 4(3), pp. 385-388.
- Ting, H., Lim, T., Run, E. C., Koh, H., & Sahdan, M. (2018). Are we Baby Boomers, Gen X and Gen Y? A qualitative inquiry into generation cohorts in Malaysia. *Kasetsart Journal of Social Sciences*, 39(1), pp. 109-115.
- Tiwari, S. (2021). Top 10 eCommerce sites in Malaysia. *TheStar*.
- Tran, T. T. (2019) On the factors affecting the development of e-commerce in Vietnam: Case study of Lazada, Shopee, and Tiki. *International Journal of Advanced and Applied Sciences*, 6(4), pp. 45-52.
- Tung, L. C., & Comeau, J. D. (2014). Demographic Transformation in Defining Malaysian Generations: The Seekers (Pencari), The Builders (Pembina), The Developers (Pemaju), and Generation Z (Generasi Z). *International Journal of Academic Research in Business and Social Sciences*, 4(4). doi:10.6007/ijarbss/v4-i4/809
- U.S. Embassies. (2019). Malaysia - eCommerce. Retrieved from <https://www.export.gov/article?id=Malaysia-E-Commerce>
- Urbach, N., & Ahlemann, F. (2010). Structural Equation Modelling in Information Systems Research Using Partial Least Squares. *Journal of Information Technology Theory and Application*, 11(2), pp. 5–40.
- V. Mckinney & etal. (2002). The Measurement of Web-Customer Satisfaction an Expectation and Disconfirmation Approach, (December 2016), pp. 296–315. <https://doi.org/10.1287/isre.13.3.296.76>
- Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). *Handbook of partial least squares (Vol. 201, No. 0)*. Germany: Springer.



- WebShaper. (2017). Compare ECommerce Marketplaces. Retrieved from <https://www.webshaper.com.my/compare-ecommerce-marketplaces/Websites>, *Proceedings of HCI 2014*, pp. 264–269.
- Wilke, A. S. (1970). *The problem of generation: A reconsideration of the theories of Karl Mannheim*.
- Williams, K. C., & Page, R. A. (2011). Marketing to the Generations. *Journal of Behavioral Studies in Business*, (September), pp. 1–17.
- Win, K. T., Mullan, J., Howard, S., & Oinas-Kukkonen, H. (2017). Persuasive Systems Design features in Promoting Medication Management for consumers. *Proceedings of the 50th Hawaii International Conference on System Sciences (2017)*. doi:10.24251/hicss.2017.403
- Winn, W. & Beck, K. (2002). The persuasive power of design elements on an e-commerce web site. *Technical Communication*, 49, pp. 17-35.
- Wold, H. O. A. (1982) Soft Modelling: The Basic Design and Some Extensions. In: Jöreskog KG and Wold HOA (eds) *Systems Under Indirect Observations: Part II*. Amsterdam: North- Holland, pp. 1-54.
- Wolfenbarger, M. and Gilly, M. (2001), “Shopping for freedom, control and Fun”, *California Management Review*, 43(2), pp. 34-55.
- Wu, R. (2019). Research on the Opportunities and Challenges for Chinese Cross-Border E-Commerce Companies in Southeast Asia Market, *International Conference on Economics, Business, Finance, and Management (ICEBFM 2019)*, pp. 6-9. doi: 10.25236/icebfm.2019.002
- Xu, Y. (2007). Impact of store environment on adult generation Y consumers' impulse buying. *Journal of Shopping Centre Research*, 14(1), pp. 39-56.
- Yang, S., Li, L., & Zhang, J. (2018). Understanding consumers' sustainable consumption intention at China's Double-11 online shopping festival: An extended theory of planned behavior model. *Sustainability (Switzerland)*, 10(6). <https://doi.org/10.3390/su10061801>
- Yee, A. Y. C., Kee, D. M. H., Xing, C., Qian, P. Y., Qi, S. M., & Dehrab, A. T. (2019, October). Lazada Group. In *Journal of International Conference Proceedings* 2(2), pp. 19-29.
- Yin, R. K. (1994). Discovering the future of the case study. Method in evaluation research. *Evaluation practice*, 15(3), pp. 283-290.



Yin, R. K. (2014). *Case study research: Design and methods (5th ed.)*. Thousand Oaks, CA: SAGE Publications.

Zigu. (2018). Top 10 eCommerce Companies in the World 2018 | Best Shopping Websites. Retrieved from <https://www.mbaskool.com/fun-corner/top-brand-lists/17622-top-10-ecommerce-companies-in-the-world-2018.html>



PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH